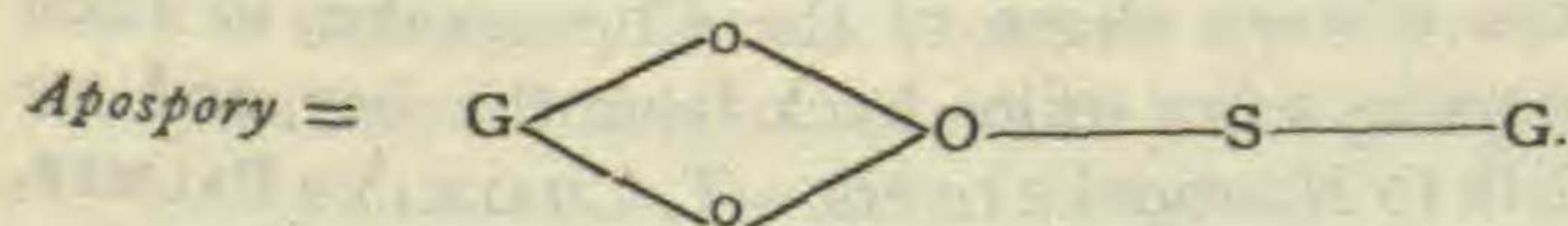
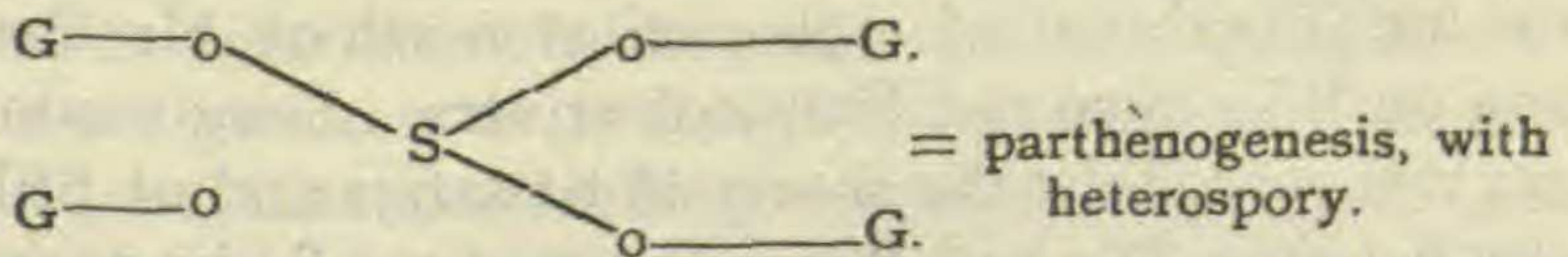
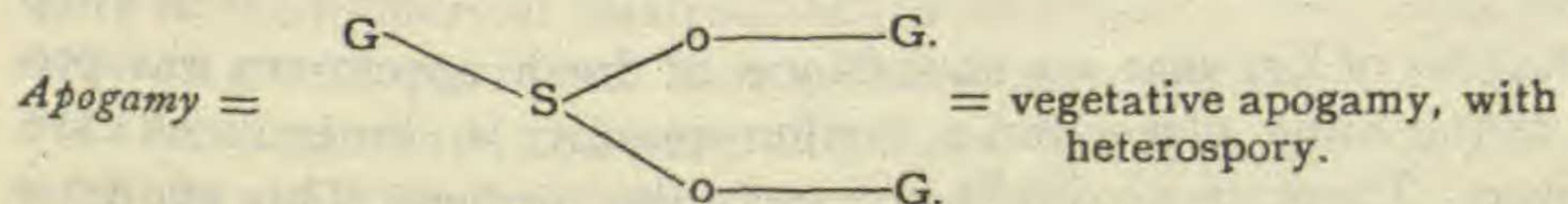
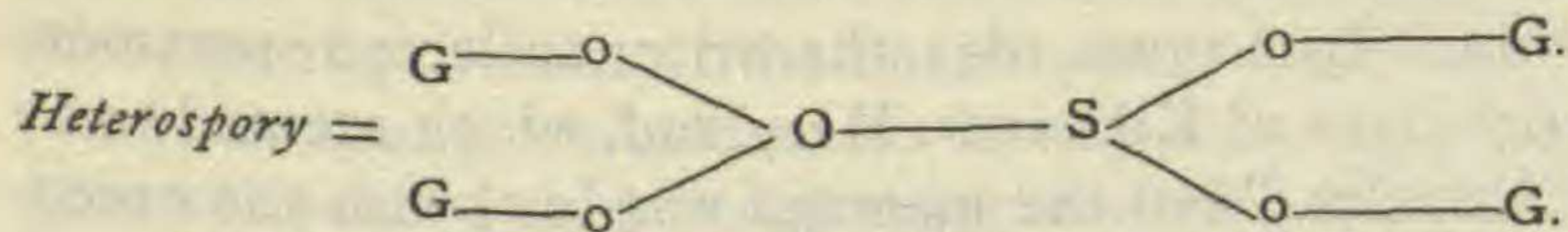
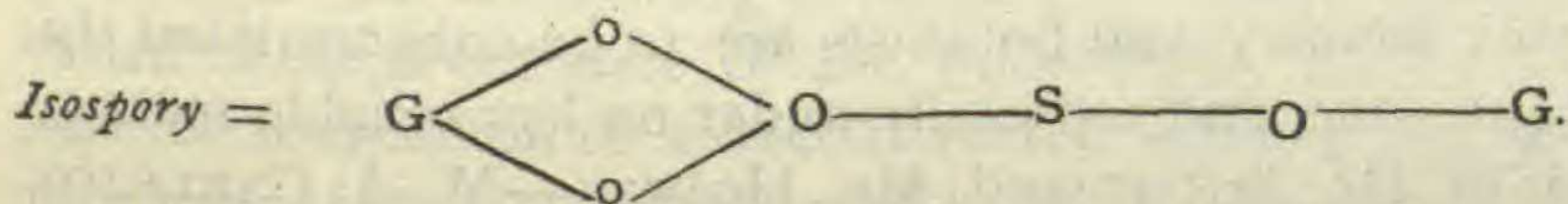


EXPLANATION OF PLATE IV.—Fig. 1. Lobe of leaf of *Geranium Carolinianum* L., attacked by *Synchytrium*. Slightly magnified.—Fig. 2. Section through confluent pustules on vein of leaf. Section does not pass exactly through center of pustules; $\times 60$.—Fig. 3. Section through center of pustules; granular mass almost fills the cavity, and resting-spore lies imbedded in lower part; $\times 150$.—Fig. 4. A large resting-spore; $\times 315$.—Fig. 5. Section through cavity containing several resting-spores; $\times 315$.—Fig. 6. Sorus, with portion of reddish brown covering adhering to one side; $\times 315$.—Fig. 7. Sporangium of same; $\times 315$.

Formulæ for life histories.—I have found certain formulæ very useful in presenting general life histories to my classes. I do not know whether others are using them or not. If not, it might be well to suggest them, for they are very helpful in fixing the broad facts.

G = gametophyte; o = gamete; O = spore (sexual or asexual); S = sporophyte.



and so on *ad infinitum*.

This is useful not only in presentation but in quizzing. For instance, ask a student to indicate in this way the life history of an angiosperm, a fern, a mildew, anything. It seems to make it very real to him.—JOHN M. COULTER, *Lake Forest, Ills.*